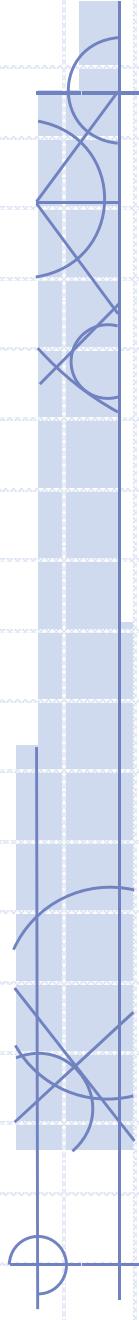


Stepwise Process to Access Grade Level Content Standards and Curriculum



Four Steps to Access: CEC 2006

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Four Steps to Access

1. Identify or link to the appropriate standard(s)
2. Define the outcome(s) of instruction
3. Identify the instructional activities
4. Target specific objectives from the IEP
[Adapted – Kearns, Burdge and Kleinert (in press)]



Step 1

1. Identify or link to the appropriate content standard(s).

- State/District Standard

- Grade Level Standard(s)

- Determine what the standard is about



Advantages of Collaboration

- High expectations
- Access to the general curriculum
- Same content standards as same age students
- Multiple standards within instructional units
- Breadth of content standards
- Variety of settings
- Embed IEP and functional skills
- Learning of a shared culture



Step 2

2. Define the outcome(s) of instruction.

- Outcomes for all students
- Prioritized outcomes for student with IEP
- Supports typically used for student with IEP

Prioritized Outcomes

- Reduce complexity
- Reduce number of skills/concepts

Should open up opportunities to access content standards vs. limiting participation in instructional activities



Step 3

3. Identify the instructional activities.

- Instructional activities for all students
- Active participation for student with IEP
- Previously identified and/or additional supports specific to instructional activities

Typical Types of Instructional Activities

- Lecture and note-taking
- Cooperative learning groups
- Research
- Practice activities and homework
- Culminating projects
- Classroom based assessment

Active Participation

- Must be meaningful
- Is based on student strengths
- Moves student towards learning of prioritized outcomes/grade level content standard



Determine Supports Needed

- Refer to the supports listed on IEP
- Select the supports that will help the student participate meaningfully
- Identify any additional supports that are needed to match the instructional task and environment
- Possibly create a menu of support ideas

Guiding Questions for Selecting Supports

- Is the student actively participating in each part of the instructional activity?
- What is needed to engage the student in instruction?
- Does the student have a means to demonstrate the knowledge, skills, concepts acquired?



Step 4

4. Target specific objectives from the IEP

– Instructional activities

– Embedded standards based objectives

– Other embedded objectives



Embedding IEP Objectives

- List the instructional activities in which IEP objectives can be addressed
- Plan how to provide direct instruction on IEP skills based on content standards
- Plan how to provide direct instruction and practice on other functional IEP objectives



Stepwise Process to Accessing Grade Level Content Standards and Curriculum

1. IDENTIFY THE STANDARD(S) THE INSTRUCTIONAL UNIT WILL ADDRESS.	
What is the state standard?	What is the grade level standard?
2. DEFINE THE OUTCOME(S) OF INSTRUCTION FROM THE INSTRUCTIONAL UNIT ON .	
What are the desired outcomes for all students in general education? What will classroom based assessment look like?	Which outcomes will be prioritized for direct instruction and monitoring for the target student with significant cognitive disabilities? What will formative assessment look like?
3. IDENTIFY THE INSTRUCTIONAL ACTIVITIES TO BE USED IN THE UNIT.	
What are the instructional activities planned for all students?	How can the student actively participate in the instructional activities?
4. TARGET SPECIFIC OBJECTIVES FROM THE IEP TO ADDRESS DURING THE UNIT.	
Which of the instructional activities provide opportunity to work on objectives?	What IEP objectives re: the general curriculum can be addressed within the instructional activities?
What other IEP objectives can be addressed within the instructional activities?	

Example – Ryan

- 13 year-old middle school student
- Significant cognitive disability

• Can:

- identify picture symbols
- emerging sight word vocabulary of 35 words
- answer basic recall questions
- independently write personal information
- basic computer use
- speaks using 2-3 word phrases

Ryan's IEP Goals

- Increase reading vocabulary words
- Identify picture symbols related to curriculum
- Increase reading/listening comprehension
- Express thoughts in writing with words and picture symbols
- Increase task completion



Standard

- **Standard: Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics).**

(IRA/NCTE Standards for the English Language Arts)

Grade Level Content Standard:

8th Grade Language Arts

- Identify and explain vocabulary taken from text appropriate for middle school.

What is the Content Standard About?

- Increasing sight word vocabulary
- Understanding vocabulary



Ryan's Sample Form: Step 1

1. IDENTIFY THE STANDARD(S) THE INSTRUCTIONAL UNIT WILL ADDRESS.

What is the state standard?	What is the grade level standard?	What is the standard all about?
Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics)	Identify and explain vocabulary taken from text appropriate for middle school.	Increasing vocabulary

Step 2: Outcomes Based on Instructional Unit on The Giver

All Students

- Identify unfamiliar vocabulary from the text using sound-letter correspondence,

- sentence structure, context, and graphics

- Explain the meaning of identified vocabulary words from each chapter

- Identify vocabulary words with multiple meanings and the meaning applicable to the context of this book

Ryan

- Identifying unfamiliar vocabulary from the text using graphics and context

- Explain the meaning of those same vocabulary words by matching to a picture representing the concept.

- Ryan will have fewer vocabulary words but will be exposed to the entire book



Supports

- Ryan's IEP has identified the following supports

- picture symbols

- pictures

- text reader

- scribe as supports



Ryan'S Sample Form: Step 2

2. DEFINE THE OUTCOME(S) OF INSTRUCTION FROM THE INSTRUCTIONAL UNIT ON _____.

<p>What are the desired outcomes for all students in general education? What will classroom based assessment look like?</p>	<p>Which outcomes will be prioritized for direct instruction and monitored for the target student with significant cognitive disabilities?</p> <p>What will formative assessment look like?</p>	<p>What supports (already identified or additional) would be necessary for the target student to access the instruction?</p>	<p>picture symbols, pictures, text reader, and scribe as supports</p>
<ul style="list-style-type: none">- Identify unfamiliar vocabulary from the text using sound-letter correspondence, sentence structure, context, and graphics- Explain the meaning of identified vocabulary words from each chapter- Identify vocabulary words with multiple meanings and the meaning applicable to the context of this book	<ul style="list-style-type: none">- identifying unfamiliar vocabulary from the text using graphics and context- explaining the meaning of those same vocabulary words by matching to a picture representing the concept.	<p>He will have fewer vocabulary words but will still be exposed to the entire book.</p>	

Instructional Activities

All Students

- Read each chapter aloud in class – students would take turns reading aloud and demonstrate they were listening by following along in the book and participating in class discussions/questions.

Ryan

- Ryan will listen to the chapter being read – he will demonstrate engagement by looking at pictures that correspond to the text (i.e., picture of a boy, family, jobs, bike, etc.).

Instructional Activities

Supports

- Pictures or picture symbols that correspond to the text

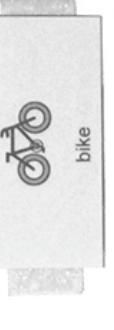
It was almost December, and Jonas was beginning to be frightened. No. Wrong word, Jonas thought. Frightened meant that deep, sickening feeling of something terrible about to happen. Frightened was the way he had felt a year ago when an unidentified aircraft had overflowed the community twice. He had seen it both times. Squinting toward the sky, he had seen the sleek jet, almost a blur at its high speed, go past, and a second later heard the blast of sound that followed. Then one more time, a moment later, from the opposite direction, the same plane.

At first, he had been only fascinated. He had never seen aircraft so close, for it was against the rules for Pilots to fly over the community. Occasionally, when supplies were delivered by cargo planes to the landing field across the river, the children rode their bicycles to the riverbank and watched, intrigued, the unloading and then the takeoff directed to the west, always away from the community.

But the aircraft a year ago had been different. It was not a squat, fat-bellied cargo plane but a needle-nosed single-pilot jet. Jonas, looking around anxiously, had seen others — adults as well as children — stop what they were doing and wait, confused, for an explanation of the frightening event.



boy



airplane



sister



Ryan's Sample Form: Step 3

What are the instructional activities planned for all students?	How can the student actively participate in the instructional activities?	What supports (already identified or additional) would help the student access the instruction?
<p>1. Read each chapter aloud in class</p> <ul style="list-style-type: none">– students would take turns reading aloud– demonstrate they were listening by following along in the book and participating in class discussions/questions. <p>2. Each student will keep a vocabulary journal for each chapter by:</p> <ul style="list-style-type: none">– writing unfamiliar words when heard while reading– writing the words identified by the teacher <p>3. Classroom based assessment:</p> <ul style="list-style-type: none">– Students will be given a list of vocabulary words to define and to write the word in a sentence using an alternative meaning.	<ol style="list-style-type: none">1. Read each chapter aloud in class<ul style="list-style-type: none">– Ryan can take a turn reading a small section of a chapter providing the text paired with symbols, using software designed for this purpose.(figure 2)– he will demonstrate listening/ engagement by looking at pictures that correspond to the text (i.e., picture of a boy, family, jobs, bike, etc.). (figure 1) and answering selected questions during class discussion.2. Ryan will keep a vocabulary journal for each chapter by:<ul style="list-style-type: none">– pick the words paired with picture symbols from several within the entire book that he does not know and glue those in his journal– glue other words identified by the teacher3. Classroom based assessment: Ryan, using Writing With Symbols with a send grid, will:<ul style="list-style-type: none">– match a vocabulary word to its definition– complete sentences with different contexts with the correct vocabulary word	<ul style="list-style-type: none">– Pictures or picture symbols that correspond to the text<ul style="list-style-type: none">– Writing With Symbols 2000 (Widgit) or PixWriter (Slater Software, Inc)– Speech/language pathologist practice with content vocabulary– Picture symbol vocabulary words– Occupational therapist may help with fine motor skills

Target specific objectives from the IEP

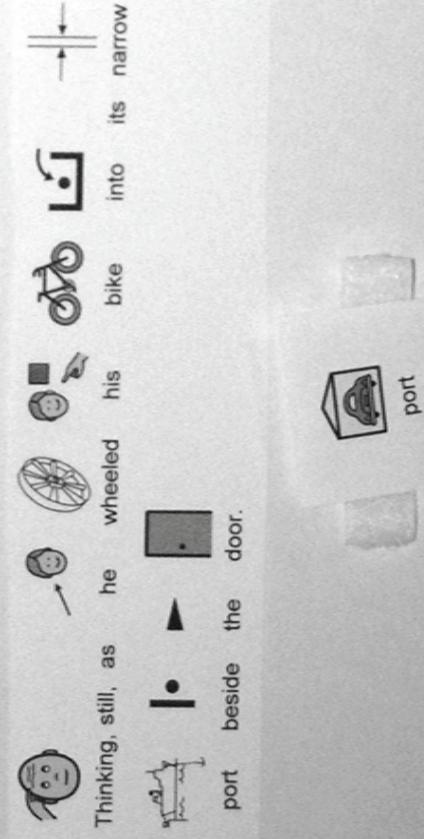
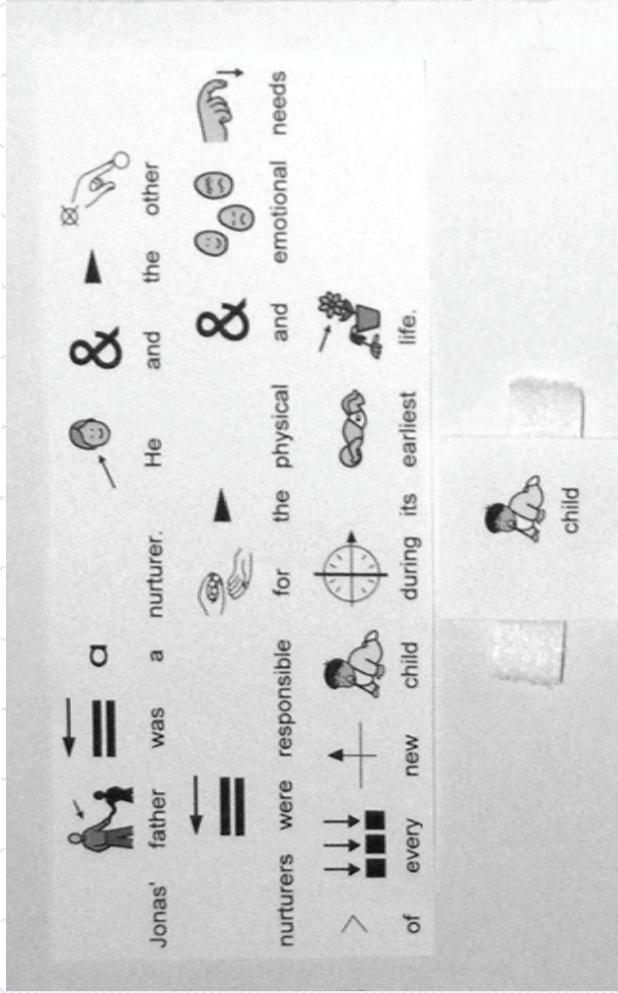
- While taking a turn reading a small section of a chapter providing the text paired with symbols, he can work on identifying picture symbols.
- When answering selected questions during class discussion, he will be working on reading/listening comprehension. Therefore additional instruction can be provided and the IEP objective monitored.
- He can work on identifying picture symbols and words when matching words to definition and when he is completing sentences.
- Task completion can be monitored during all the activities that require a finished product.

Ryan's Sample Form: Step 4

4. TARGET SPECIFIC OBJECTIVES FROM THE IEP TO ADDRESS DURING THE UNIT.

Which of the instructional activities provide opportunity to work on objectives?	What IEP objectives re: the general curriculum can be addressed within the instructional activities? What other IEP objectives can be addressed within the instructional activities?
<ol style="list-style-type: none">1. Take a turn reading a small section of a chapter providing the text paired with symbols2. Answer selected questions during class discussion3. Match words to definition in complete sentences.4. All the activities that require a finished product.	<ol style="list-style-type: none">1. Identifying picture symbols2. Working on reading/listening comprehension and monitor3. Increasing reading vocabulary words4. Task completion can be monitored during all activities.

Ryan's Work

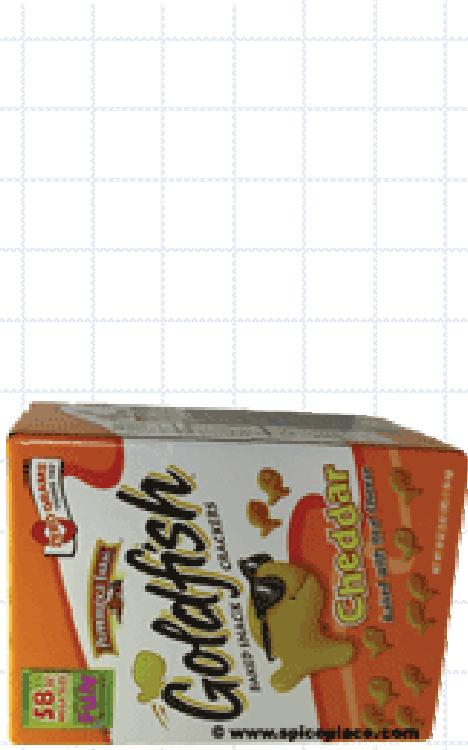
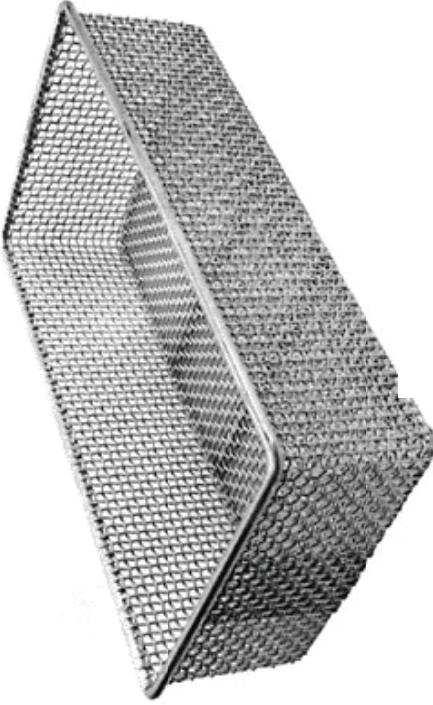


Jonah's father was a nurturer. He and the other nurturers were responsible for the physical and emotional needs of every new child during its earliest life.



http://www.tsbvi.edu/Education/vmi/tactile_symbols.htm

Jonah's father was a nurturer. He and the other nurturers were responsible for the physical and emotional needs of every new child during its earliest life.

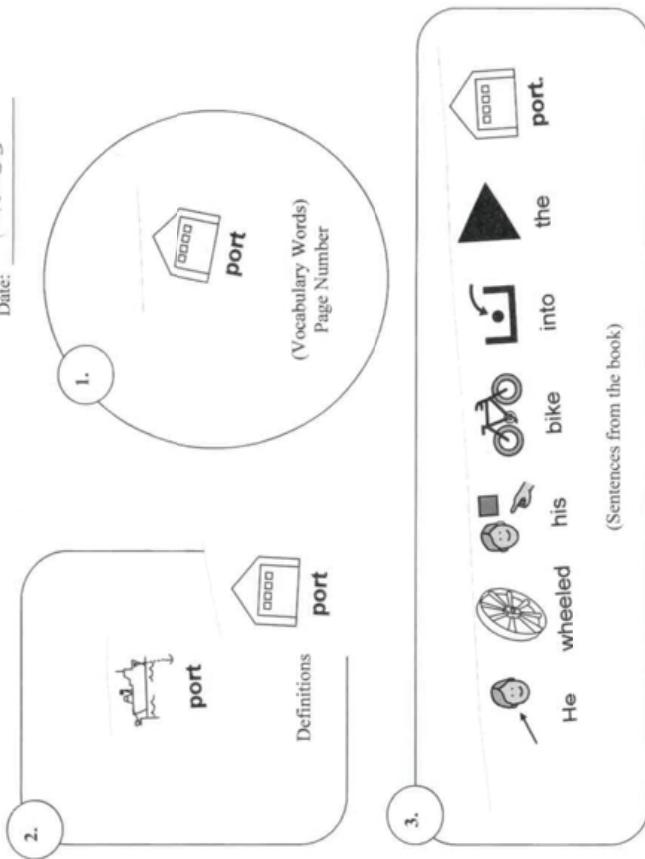


Ryan's Work

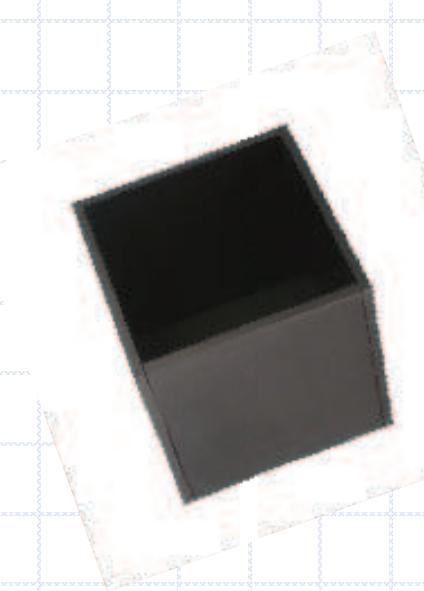
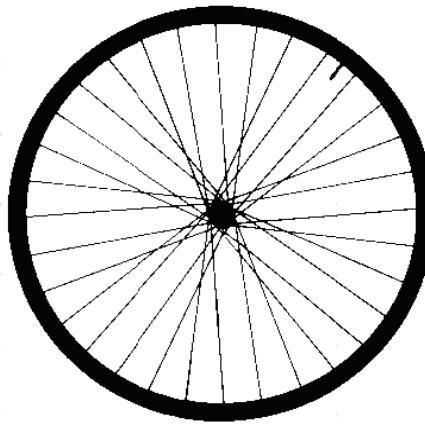
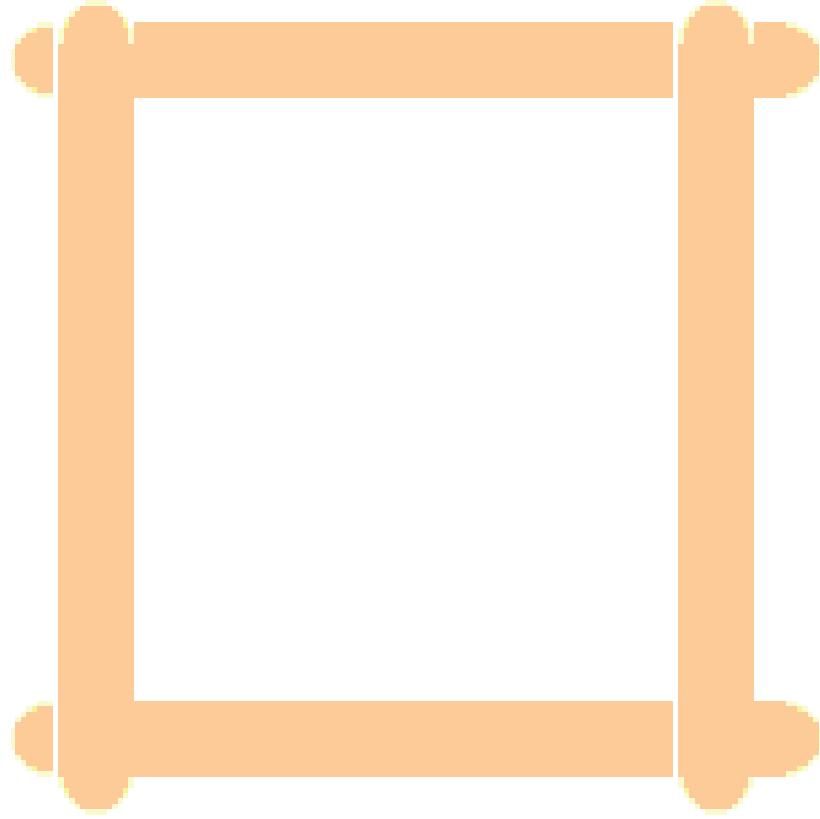
Choose the words & sentences
from 3 choices each time.

Word Map

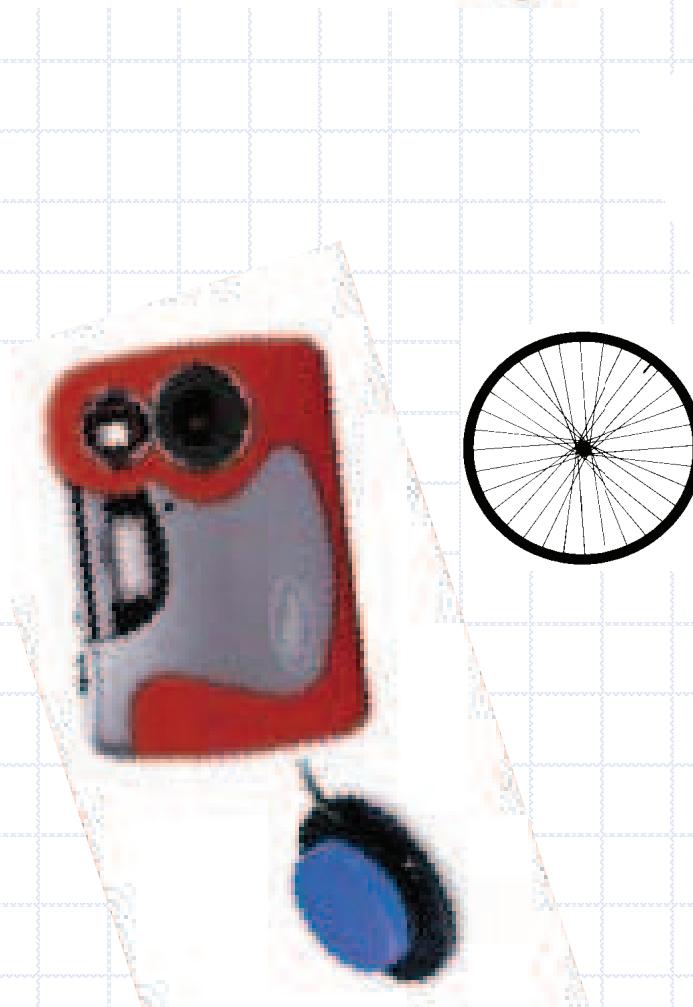
Name: Ryan
Date: 1-10-05



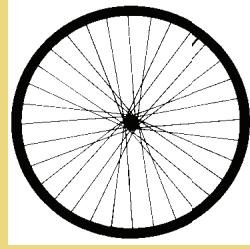
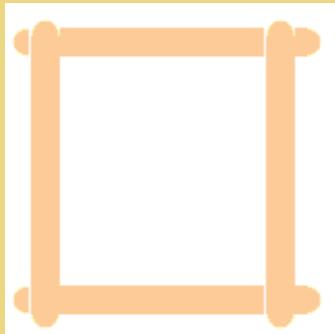
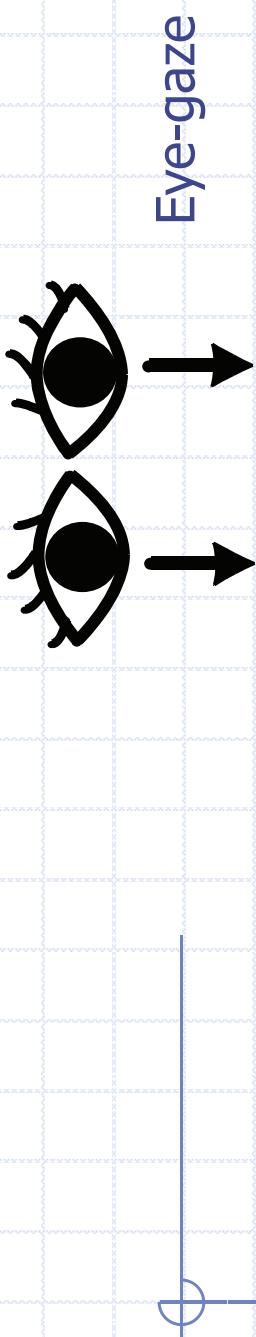
He wheeled his bike into the port.



He wheeled his bike into the port.



What did Jonas wheel into the port?



Hope & Taylor

- 12 year old 6th grade
- 12 year old 6th grade
- 2.6 grade level reading fluency
- 3.5 grade level Comprehension
- 4th grade Listening comprehension
- Regular assessment
- Regular assessment



IEP Goals

- Hope will

- Increase reading fluency
 - Improve sight word reading
 - Answer literal and inferential comprehension questions
 - Use new vocabulary
 - Write extended responses to reading passages
- Taylor will
- Answer literal and inferential questions
- Develop paragraph with details, reasons, and examples
- Use pre-writing strategies to generate and organize ideas around one topic

Instructional Activity

- Read *Letters from Rifka*

- Identify the correct answers (80%) for skills questions from *Letters from Rifka*. Skills questions include cause/effect, main idea, prediction drawing conclusion, fact/opinion, and mood.

- Identify story elements, conflict, exposition, rising action, climax, falling action and resolution from a chapter in *Letters from Rifka*.

- Write a "reader's response" (similar to an open response item)



Supports

- small group instruction
- audio CD
- story elements to match on story map.
- pre assigned reading passage.
- copy of story element definition and examples
- model of reader's responses
- graphic organizer
- list of transitions



Restate prompt
Transitions
Evidence from text
My inner reflection

How was the experience of the Japanese Americans during the 1940's alike and different from another historical event?

The Japanese Americans experience during the 1940's was alike and different from the African-Americans during the Civil Rights Movement of the 1960's. The Japanese Americans were placed in segregated schools with poor supplies and curriculum. Similarly, the African Americans were placed in segregated schools with similar conditions. I think this act was unthinkable and without justice. These innocent groups were U.S. citizens having their rights wrongly violated.

Besides injustice in schools, the whites' hatred of Japanese Americans drove them to throw rotten eggs and their businesses. In contrast, whites were even more violent with the African Americans. For example, they heartlessly burned their houses and bombed churches killing innocent children. Again, hatred fueled these acts. These were impulsive acts of racism with no cause. The whites had no proof that the Japanese Americans were acting as spies and though the African Americans protested nonviolently, the whites continued to torture them.

Another ploy to get rid of Japanese Americans was putting up signs. Some signs read, "This is a white neighborhood." Along with signs against Japanese Americans, whites displayed prejudice against African Americans by posting signs, which said "Whites Only" or "Colored Fountaint." This was terribly unfair. The government stated "separate but equal." That was a lie. Both races experienced prejudice. The Japanese Americans' experience was alike and different from the African Americans.

The power of digital text. Highlighting features of text readers allow students to manipulate text for a variety of purposes.

Similarly, the African Americans were placed in segregated schools with similar conditions. I think this act was unthinkable and without justice.

Reader's Response Name Hope

Date 12/5/15
Refer to pages 35-49 How and why does Rifka change during these letters?

Restating the prompt: The character changes because of the events in the story.

How was Rifka feeling about Antwerp in pages 35-40? (Just adjectives to describe) Inferring
Lonely, the press were meanly.

How was Rifka feeling about Antwerp in pages 41-49? (just adjectives to describe) Inferring

Stressed, worried, angry,

Provide two pieces of evidence from the text to support your answer.

1. Rifka is joyful because he's been writing to his family more.

He's writing to his family.

Rifka is joyful because he's been writing to his family.

Rifka is joyful because he's been writing to his family.

2. Rifka is lonely because he's been writing to his family more.

Rifka is lonely because he's been writing to his family more.

3. Rifka is lonely because he's been writing to his family more.

Rifka is lonely because he's been writing to his family more.

How did the events in Antwerp change Rifka?

She became more positive.

What lessons did Rifka learn in these letters?

She learned that she can't be afraid of new people and new things.

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Also	Along with	Similarly	For instance	For example
For one thing	For another thing	Besides	In addition	
Then	Finally	To begin with	In conclusion	All in all
As well as				

Reader's Response

- ❖ **Read the prompt first**
- ❖ **As you're reading the story, mark passages that can be used as evidence in the prompt**
- ❖ **Shoot for three thorough paragraphs**
- ❖ **Paragraph 1**
 - Restate the prompt
 - Provide evidence from text
 - Transition and provide interpretation, explanation, or comparison
 - Tell me more-thoughts and feelings
- ❖ **Paragraph 2**
 - Transition and provide evidence from text
 - Transition and provide interpretation, explanation, or comparison
 - Tell me more-thoughts and feelings
- ❖ **Paragraph 3**
 - Transition and provide evidence from text
 - Transition and provide interpretation, explanation, or comparison
 - Tell me more-thoughts and feelings
 - Conclusion transition and restate the prompt



Hope's Work

Albert Einstein and Jacques Cousteau are
renowned as great men. First, Albert Einstein
was intelligent and social. He was concerned
about gravity and space and time. Also, Einstein
invented the theory of relativity. He believed that
people should not
use weapons.
One other thing Jacques Cousteau was
famous because he was
strong in the French Navy. He gave Cousteau
the name "Jacques-Yves".
Jacques Cousteau invented the
Aqua-Lung, which
is a breathing device to help
people breathe under water.
All in all, they were known as great
men. They both created
many inventions and
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For example, Jacques Cousteau studied
ocean life and helped to
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Hope

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Hope

"Muriel Belle" is a very good title for
this story. First of all she likes to tell people what
she does. She is a nice person like she new all
of all she tried to tell a lie and so far out by
swimming so far out by the rocks.
The third thing is she acted like a queen.
Muriel Belle is a kind girl because she is
kind to do what she wants to do with everyone.
Fisher made Muriel Belle's nice coffee to help out. When
then she helps the Fisher and teach his wife to fish.
One other thing is that she is loving and nice. When
about what I think about Muriel Belle's Beach." is
an excellent little for this story. On she kinds of
pains to be of this book I read it is called "Hold on of
what you have" because the woman has a daughter and
she was going to College. Hold on all she had a
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beach to do so that is why Muriel Belle's Beach is on
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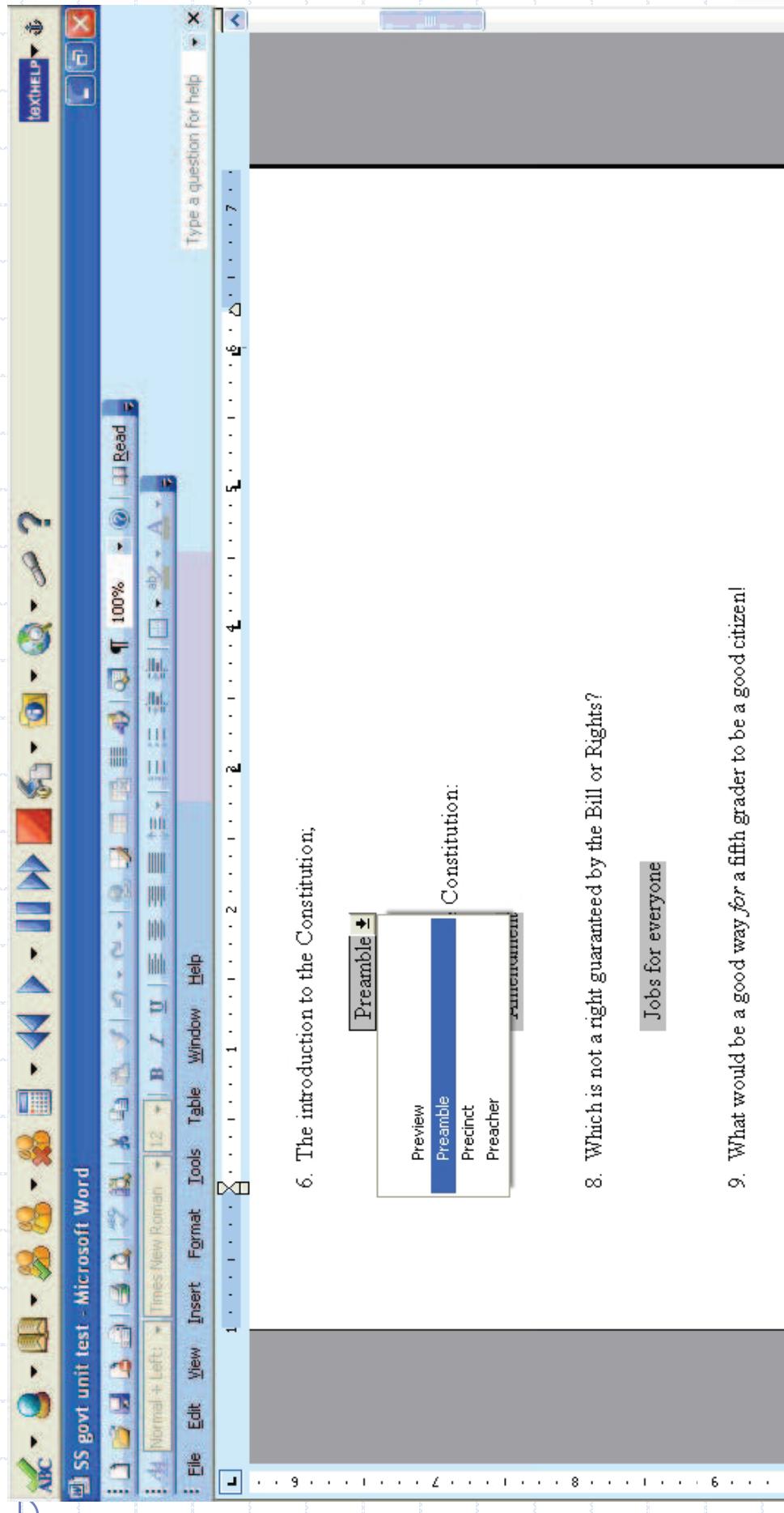
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Beach propert little for this story.

Two examples of Hope's reader responses.

- Best work, left example using supports, 87% correct.
- Classroom-based assessment, right example 75% correct.



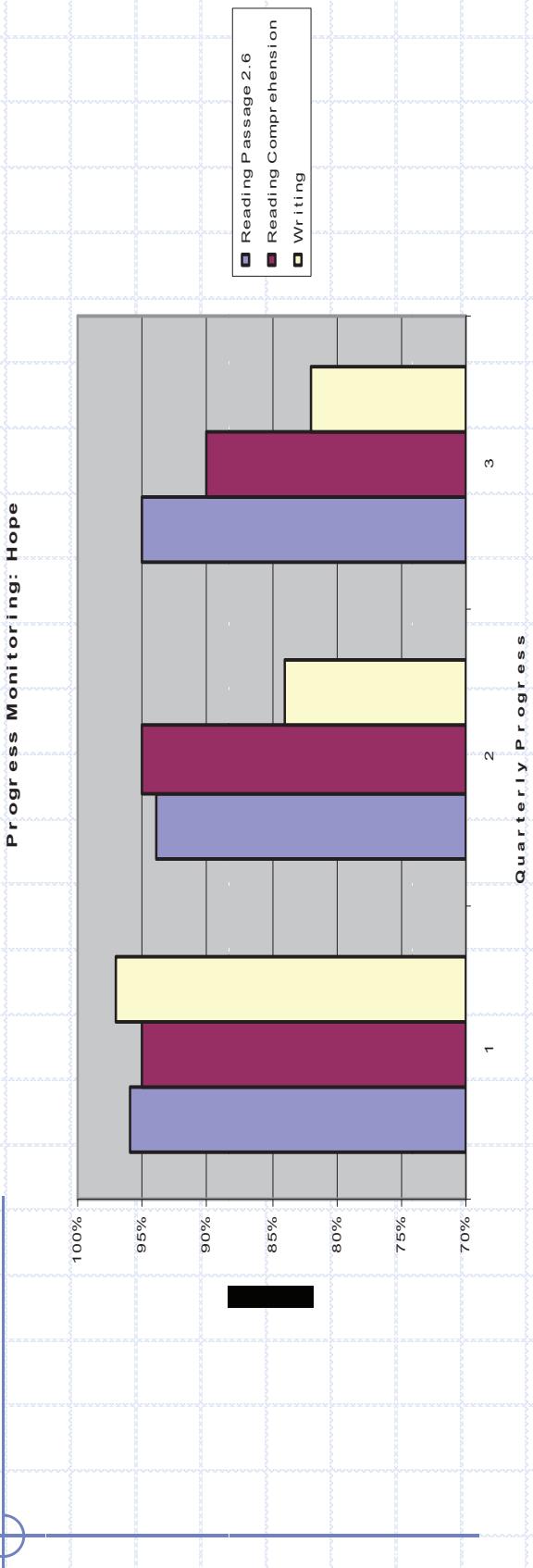
Microsoft Word Form with dropdown boxes / Text reader (Read and Write Gold, textHELP!)



8. Which is not a right guaranteed by the Bill or Rights?
9. What would be a good way for a fifth grader to be a good citizen!

Jobs for everyone

Progress Monitoring: Hope



- Reading Fluency @ 2.5 Grade level
- Reading Comprehension
- Writing

Taylor's Work

Taylor

Aunt Bettie Beach is a very friendly woman. She is a very friendly woman for example. She goes to the beach and be overentertained and or not in summer and be over-
pro-
active.

Allied Aunt Bettie can be a very local person for example by helping other found her mother and making some loans and being a great woman.

Aunt Bettie removes one of my best friends.

To begin with the owner one of sue always was on a rock outside and no it has to much before going outside and no it has to much

long long I have when she does that but she still my and of some one's love next Aunt Bettie Beach is a very good time for this story.

Taylor

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Two examples of supports, Taylor's readers responses.

- Best work, right example, using supports, 90%
- Classroom-based assessment, left example 75% correct.



Reader's Response Name Sophia Date 10/10/20

Refer to pages 35-49 How and why does Rifka change during these letters?

Restating the prompt:

How was Rifka feeling about Antwerp in pages 35-40? (just adjectives to describe) Inferring	How was Rifka feeling about Antwerp in pages 41-49? (just adjectives to describe) Inferring
<u>lonely, confused, scared, worried, angry, sad,</u>	<u>afraid, worried, angry, sad, confused, lonely,</u>
Provide two pieces of evidence from the text to support your answer.	Provide three pieces of evidence from the text to support your answer.

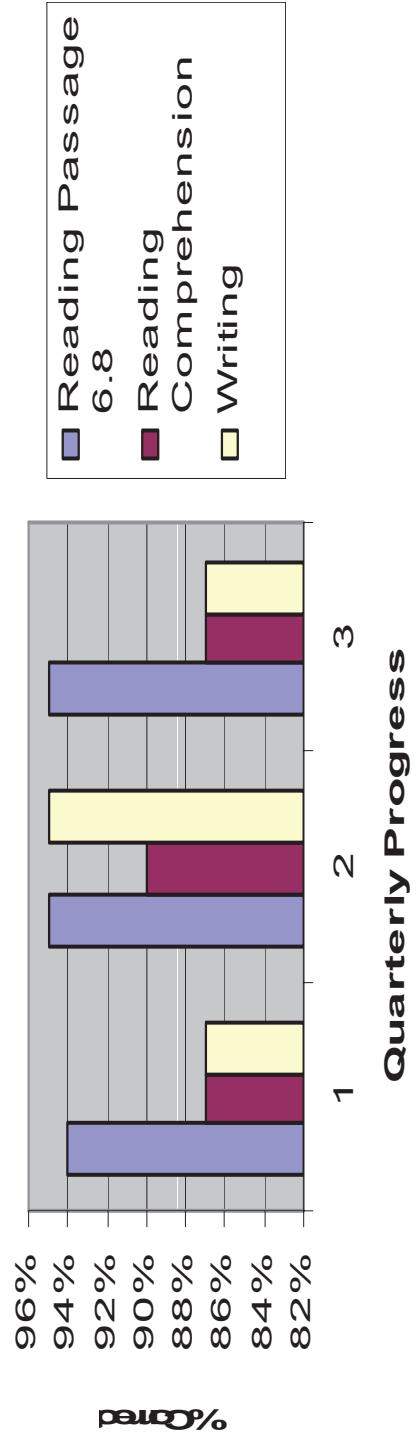
Provide two pieces of evidence from the text to support your answer.	Provide three pieces of evidence from the text to support your answer.
1. <u>Rifka is alone in Antwerp. She has no family or friends there.</u>	1. <u>Rifka is alone in Antwerp. She has no family or friends there.</u>
2. <u>Rifka is alone in Antwerp. She has no family or friends there.</u>	2. <u>Rifka is alone in Antwerp. She has no family or friends there.</u>
3. <u>Rifka is alone in Antwerp. She has no family or friends there.</u>	3. <u>Rifka is alone in Antwerp. She has no family or friends there.</u>

How did the events in Antwerp change Rifka?	What lessons did Rifka learn in these letters?
<u>The Antwerp events changed Rifka because she had to leave her home country and live in a new place.</u>	<u>Rifka learned that she can't always control what happens to her, but she can choose how to react to it.</u>

How did the events in Antwerp change Rifka?	What lessons did Rifka learn in these letters?
<u>The Antwerp events changed Rifka because she had to leave her home country and live in a new place.</u>	<u>Rifka learned that she can't always control what happens to her, but she can choose how to react to it.</u>

Progress Monitoring: Taylor

Progress Monitoring: Taylor



- Reading Fluency
- Reading Comprehension
- Writing Sample

Veronica's Sample

- 14 year-old middle school student
- Significant cognitive disability
- Limited vision and moderate hearing loss
- Seizure disorder – petit mal and grand mal
- Uses a wheelchair and needs someone to push her
- Low muscle tone, difficulty crossing midline, limited fine motor skills
- Uses objects to communicate
- Vocalizes

Veronica's IEP Goals

- Increase communication using an augmentative communication board
- Follow simple one step directions
- Activate a one level communication device with up to 8 keys (or message squares)
- Identify high contrast picture symbols/pictures
- Identify numbers 1 – 5
- Match objects to objects or picture symbols



Stepwise Process to Accessing Grade Level Content Standards and Curriculum

1. IDENTIFY THE STANDARD(S) THE INSTRUCTIONAL UNIT WILL ADDRESS.

What is the state standard?	What is the grade level standard?	What is the standard all about?
<p>Understand measurable attributes of objects and the units, systems, and processes of measurement</p> <p>Apply appropriate techniques, tools, and formulas to determine measurements</p>	<p>Understand, select, and use units of appropriate size and type to measure angles, perimeter, area, surface area, and volume.</p> <p>Select and apply techniques and tools to accurately find length, area, volume, and angle measures to appropriate levels of precision;</p>	<p>Use appropriate tools and techniques to measure angles, perimeter, area, surface area, and volume.</p>

2. DEFINE THE OUTCOME(S) OF INSTRUCTION FROM THE INSTRUCTIONAL UNIT ON _____.

What are the desired outcomes for all students in general education?	Which outcomes will be prioritized for direct instruction and monitoring for the target student with significant cognitive disabilities?	What supports (already identified or additional) would be necessary for the target student to access the instruction?
<p>What will classroom based assessment look like?</p>	<ul style="list-style-type: none"> – Apply appropriate measuring techniques to authentic task – Demonstrate knowledge of how to measure volume – Be able to estimate needed amount of materials 	<ul style="list-style-type: none"> – Math manipulatives – 4 key voice output device – Adaptive keyboard – Auditory feedback software – Pictures

3. IDENTIFY THE INSTRUCTIONAL ACTIVITIES TO BE USED IN THE UNIT.

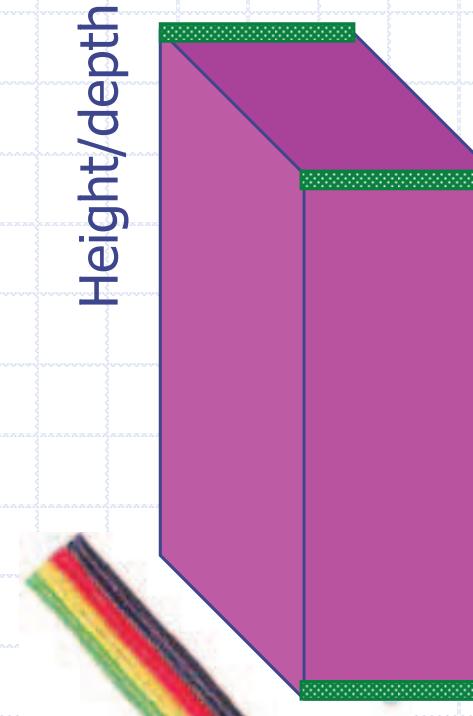
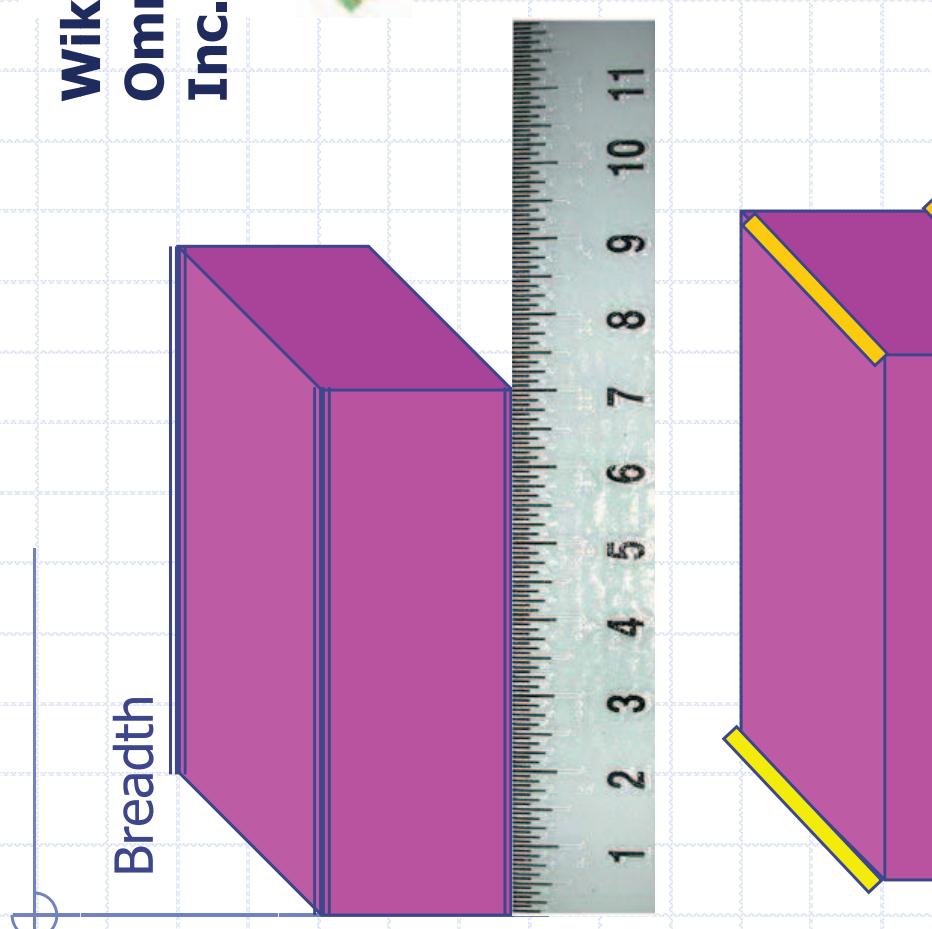
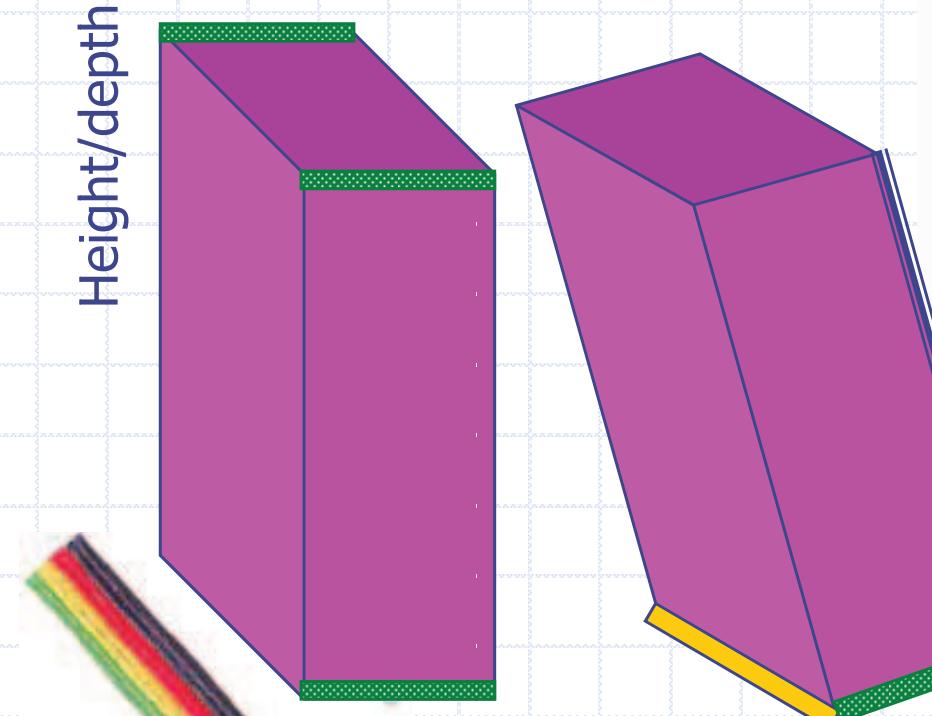
What are the instructional activities planned for all students? What will the classroom based assessment look like?	How can the student actively participate in the instructional activities?	What supports (already identified or additional) would help the student access the instruction?
<p>1. Review length, width, and depth and discuss how these three things are used to measure volume</p> <ul style="list-style-type: none"> - The class will brainstorm ways to compute volume (e.g., mathematical formula, fill containers with cubes, build to scale with cubes and count) <p>2. Practice figuring volume by completing problems on a worksheet</p> <p>3. Work in small groups trying out various methods determined during the brainstorming activity (e.g., math formulas, math manipulatives, scaled materials)</p> <p>4. Apply the skills in the context of constructing a playhouse:</p> <ul style="list-style-type: none"> - To build a playhouse 5 feet by 3 feet the students must first <ul style="list-style-type: none"> - Determine how many cubic feet of concrete is needed for the foundation and the floor then convert to cubic yards 	<p>1. 3 pictures/picture symbol of the same item with the length highlighted on one, width on one, and depth on the third. The teacher or paraprofessional will provide direct instruction on each. She will line a tactile ruler next the highlighted section of each picture</p> <p>2. While students are doing a worksheet Veronica will practice lining her tactile ruler next to the highlighted areas of the pictures and activating the corresponding number on the voice output device.</p> <p>3. In small group Veronica will use 1 centimeter cubes to fill a container (cube) and assisted in counting how many it took to fill the container.</p> <p>4. Using a template, Veronica matches one cube to each square on the template to represent 1 cubic yard and then is assisted in counting the number of cubes used.</p>	<ul style="list-style-type: none"> - line drawings or pictures - tactile ruler - voice output device - one centimeter cubes - template of scaled drawing of the playhouse - adapted keyboard set up like a calculator

4. TARGET SPECIFIC OBJECTIVES FROM THE IEP TO ADDRESS DURING THE UNIT.

Which of the instructional activities provide opportunity to work on objectives?	What IEP objectives re: the general curriculum can be addressed within the instructional activities? What other IEP objectives can be addressed within the instructional activities?
<ol style="list-style-type: none">1. Place tactile ruler next to each picture/picture symbol2. Identifying the number on the ruler3. Placing 1 centimeter cubes into the container4. Placing each cube on a square on the template5. Operate the adapted calculator	<ol style="list-style-type: none">1. Identify the picture/picture symbol with verbal cue2. Identifying the correct number on the voice output device3. No specific IEP objective for this activity4. Matching objects to objects or picture symbols (i.e., template square)5. Identifying numbers5. Increasing communication

Veronica's work

Wikki Stix
Omnicorn
Inc.



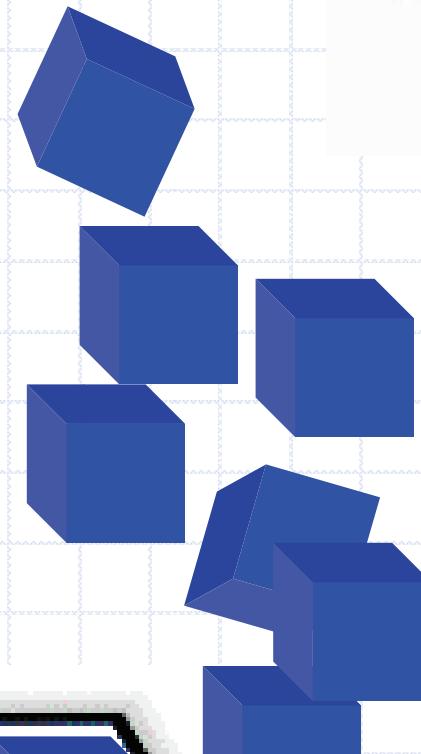
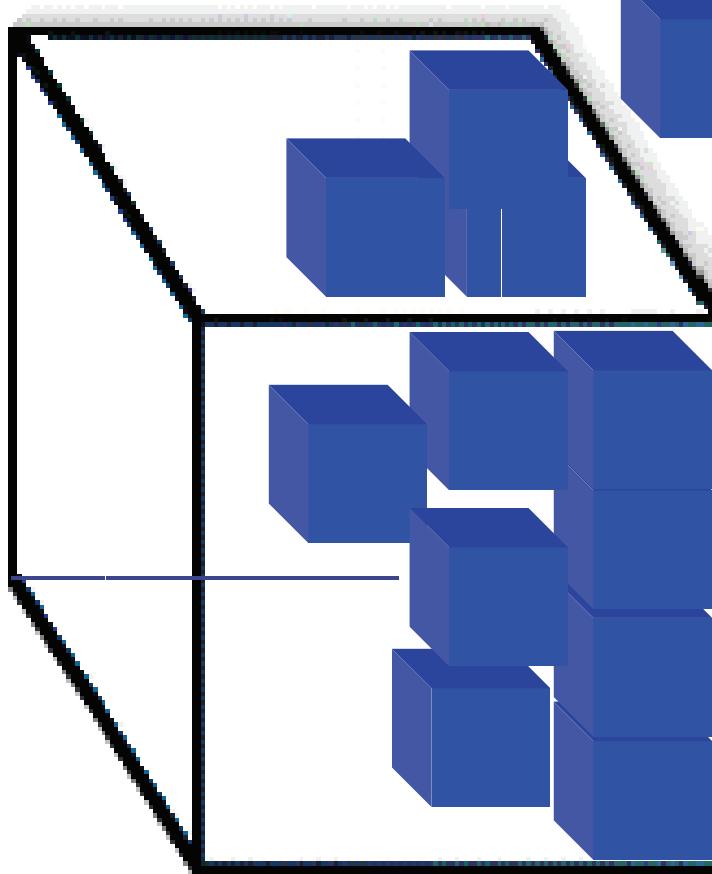
Measuring with a tactile ruler



Tango, Ablenet
/ Blinktwice

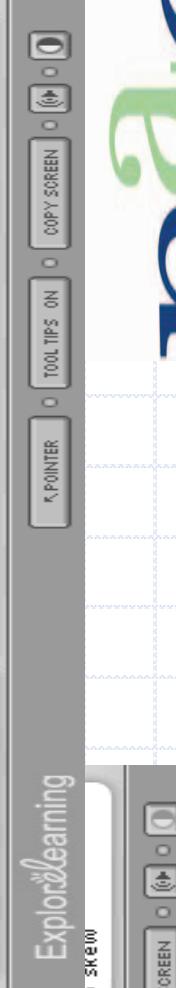
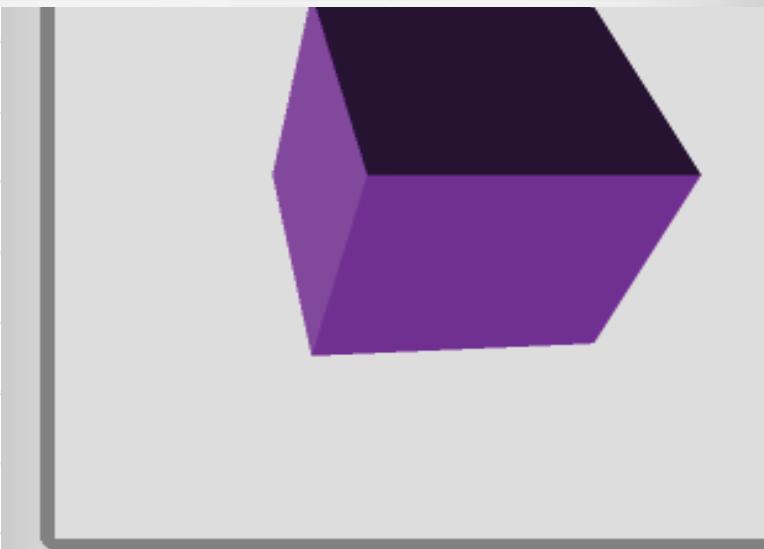
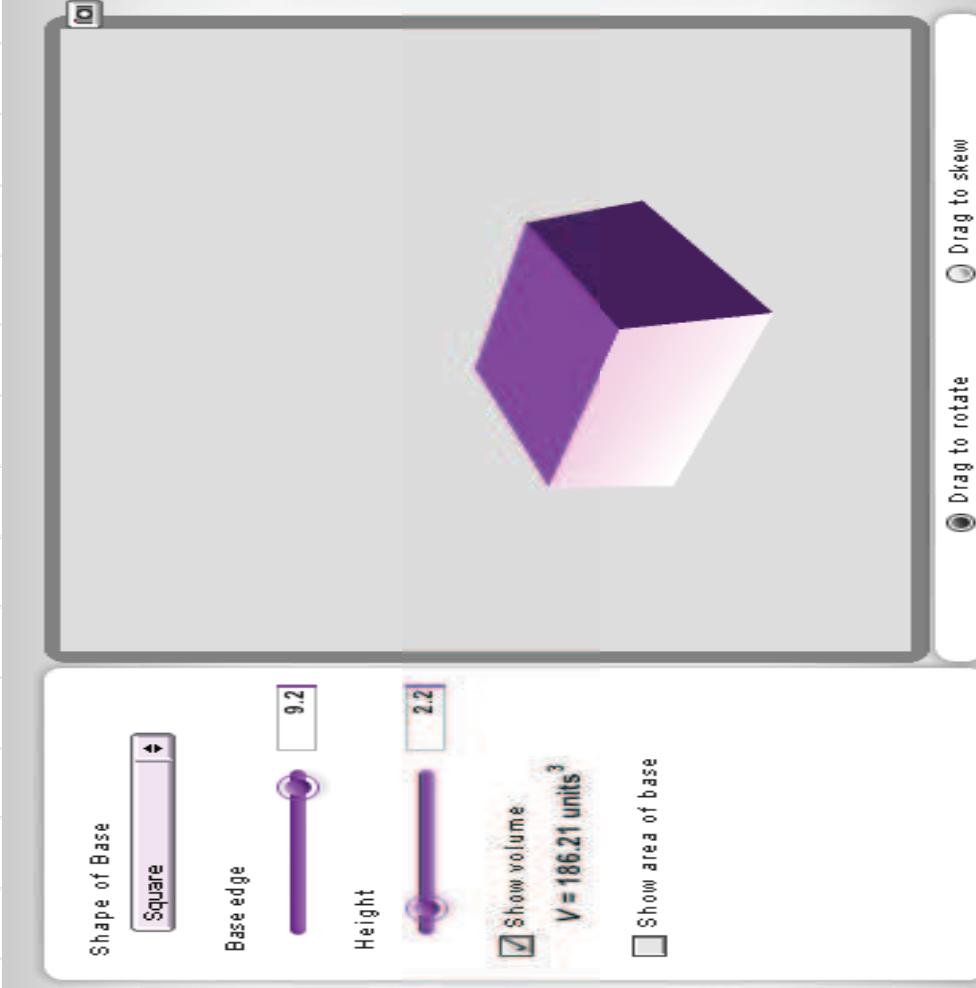


Small group brainstorming



Brainstorming

Gizmos, Pro-Quest



Nick and Javon's Sample Mathematics

- Nick
 - 12-year-old 6th grade student
 - Specific Learning Disability
 - Deficits in Reading, Spelling, Math, and receptive language, and auditory processing
 - Reading: 7th grade decoding/6th grade comprehension
 - Math 3rd grade level
- Javon
 - 12-year-old 6th grade student
 - Specific Learning Disability
 - Deficits in Reading, and Math
 - Reading mid 6th grade decoding and comprehension
 - Math 5th grade level



Javon Support & Work Sample

Type of Solid	Illustration	Formula	Notes
Cube		$V = s^3$	$s = \text{length of an side (or height of a cube)}$ Area of base = s^2 When you multiply this (it) by the height (s), the volume becomes s^3 .
Rectangular Prism		$V = B \cdot h$	$B = \text{area of base (or length times width)}$ $h = \text{height of prism}$
Cylinder		$V = \pi r^2 h$ or $B \cdot h$	$B = \text{area of circle (or } \pi r^2\text{)}$ $h = \text{height of cylinder}$

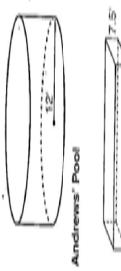
Brain Teasers - Answers

Finding Volume (cont.)

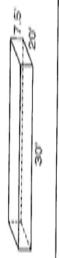
Directions: Use the information on page 75 to solve the following problems. Use the space provided to show your computations.

1. The Petersons and the Andrews families both have swimming pools. What is the volume of each pool? Which pool holds the most water?

Petersons' Pool



$$\begin{aligned} \text{Computation: } V &= \pi(r^2 \cdot h) \\ V &= 3.14 \cdot (10 \cdot 10) \cdot 10 \\ V &= 3.14 \cdot 100 \cdot 10 \\ V &= 3140 \text{ cu ft} \end{aligned}$$



$$\begin{aligned} \text{Computation: } V &= l \cdot w \cdot h \\ V &= 30 \times 20 \times 7.5 \\ V &= 4500 \text{ cu ft} \end{aligned}$$

Andrews' pool holds more water.

2. If you were to build the following block tower using solid blocks with the dimensions shown, how many cubic centimeters would it represent?



$$\begin{aligned} \text{Computation: } V &= l \cdot w \cdot h \\ V &= 3.14 \cdot (2 \times 2) \cdot 14 \\ V &= 3.14 \cdot 4 \cdot 14 \\ V &= 125.6 \times 14 = 1792 \text{ cu cm} \end{aligned}$$

$$\begin{aligned} \text{Computation: } V &= l \cdot w \cdot h \\ V &= 4 \times 2 \times 5 \\ V &= 40 \text{ cu cm} \end{aligned}$$

$$\begin{aligned} \text{Computation: } V &= l \cdot w \cdot h \\ V &= 12 \times 5 \times 5 \\ V &= 300 \text{ cu cm} \end{aligned}$$

$$\begin{aligned} \text{Computation: } V &= l \cdot w \cdot h \\ V &= 6 \times 6 \times 6 \\ V &= 216 \text{ cu cm} \end{aligned}$$

$$\begin{aligned} \text{Total: } 300 + 300 + 216 &= 816 \text{ cu cm} \\ \#2235 \text{ Pre-Gedometry Block Tower} \end{aligned}$$

Used formula chart

- Two Problems
 - Extended Response
 - 100%
- Name: Javon _____
- Write an explanation for one of your problems.
- To solve I drew a rectangle and used the formula $A = l \cdot w$. I then divided the rectangle into two equal halves. One half had a length of 10 cm and a width of 5 cm. The other half had a length of 10 cm and a width of 6 cm. The total area was $10 \times 5 + 10 \times 6 = 110$ square cm.
- First I drew a rectangle and divided it into two equal halves. One half had a length of 10 cm and a width of 5 cm. The other half had a length of 10 cm and a width of 6 cm. The total area was $10 \times 5 + 10 \times 6 = 110$ square cm.
- First I drew a rectangle and divided it into two equal halves. One half had a length of 10 cm and a width of 5 cm. The other half had a length of 10 cm and a width of 6 cm. The total area was $10 \times 5 + 10 \times 6 = 110$ square cm.

Nick's Work

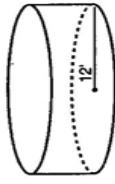
- One problem
- Step by Step instructions

Writing frame

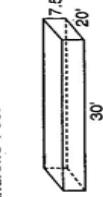
Illustrative Activity

Directions: Use the information on page 79 to solve Petersons Pool to show your computations.

1. The Petersons and the Andrews families both have swimming pools. What is the volume of each pool? Which pool holds the most water?
Petersons' Pool



Andrews' Pool



Explain your answer.

First, I need to find Volume of the Petersons' pool.

Because this is a round (shape) pool, I need to use the formula for a cylinder $V = \pi r^2 h$ which is $V = \pi r^2 h$. When I solved the equation I found the volume of Petersons' pool to be 4521.1.

Next, I need to find Volume of the Andrews' pool.

Because this is a rectangular (shape) pool, I need to use the formula for a rectangular prism which is $V = l \times w \times h$. When I solved the equation I found the volume of Andrews' to be 4500.

In conclusion I found the Petersons' pool holds the most water.

Summary

- All of the students were:

- Working on similar content standards
- Responding differently within the context of the content
- The four-step process structures the results
- Work samples show a progression toward grade-level achievement
- Supports are crucial to access
- Multiple data sources were used

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